Compressors/Engines ☐
Dehydrators ☐
Pipelines ☐
Pneumatics/Controls ☐
Tanks ☐
Valves ■
Wells ☐
Other ☐

Move Fire Gates In to Reduce Venting at Compressor Station

Applicable sector(s):

☐ Production ☐ Processing ■ Transmission and Distribution

Partners reporting this PRO: Columbia Gas Transmission

Other related PROs: Design Isolation Valves to Minimize Gas Blowdown Volumes, Redesign Blowdown Systems and Alter ESD Practices

Technology/Practice Overview

Description

During a real or simulated emergency at a compressor station, fire gate valves are activated to stop the flow of gas into the station. The volume of gas between the valves is then vented to the atmosphere through emergency shutdown systems. One partner has reported minimizing the emitted volume of gas by moving the fire gate valves closer to the compressor stations.

These valves must be accessible to facility operators and are typically located on the periphery of the property. The valve is often buried up to the wheel or enclosed in a fire protective box or screen. Moving the fire gates closer to the station reduces the amount of gas-filled piping to be vented to the atmosphere.

Methane Savings

1,700 Mcf/yr

Costs

Capital Costs (including installation)
☐ < $1,000 ☐ $1,000-$10,000 ■ > $10,000

Operating and Maintenance Costs (Annual)
None

Payback (Years)

☐ 0-1 ☐ 1-3 ■ 3-10 ☐ > 10

Principal Benefits

Reducing methane emissions was:

■ **A primary justification for the project** ☐ **An associated benefit of the project**

Operating Requirements

There is no change in operating requirements.

Applicability

This applies to all compressor stations as long as all existing fire gate safety and design standards are met.

Methane Emission Reductions

Methane emissions reductions are estimated from the length, size and operating pressure of piping excluded from the isolated facilities by the new location of fire gate valves. One partner has reported methane reductions of nearly 7.1 MMcf in one year at three facilities.

Economic Analysis

Basis for Costs and Savings

Methane emission reductions of 1,700 Mcf/yr is based on relocation of fire gate valves excluding 2,000 feet of 24-inch pipeline operating at 900 psia from being blown down four times per year.

Discussion

Alteration or additions to the fire gate valves at a compression station involves engineering and construction costs, which if aimed at minimizing gas venting, would be offset by gas savings.